

AMENDMENTS TO THE CLAIMS

CLAIMS 1-2 (CANCELED).

CLAIM 3 (CURRENTLY AMENDED): The apparatus according to claim 2 13 wherein the first rotor member has greater thermal conductivity than the first second rotor member and the second second rotor member.

CLAIM 4 (CURRENTLY AMENDED): The apparatus according to claim 2 13 wherein the first rotor member comprises aluminum, and wherein the first second rotor member and the second second rotor member each comprises stainless steel.

CLAIM 5 (CURRENTLY AMENDED): The apparatus according to claim 4 wherein each of the first second rotor member and the second second rotor member is formed with a hardening process.

CLAIM 6 (CANCELED).

CLAIM 7 (CURRENTLY AMENDED): The apparatus according to claim 4 13 wherein the first second rotor member and the second second rotor member are hot rolled to the first rotor member.

CLAIM 8 (CURRENTLY AMENDED): The apparatus according to claim 4 13 wherein the first second rotor member and the second second rotor member are forge welded to the first rotor member.

CLAIM 9 (CURRENTLY AMENDED): The apparatus according to claim 2 13 wherein the first rotor member has a thickness of from approximately 0.5 millimeters to approximately 1.5 millimeters, and wherein the first second rotor member and the second second rotor member each has a thickness of from approximately 0.2 millimeters to approximately 0.8 millimeters.

CLAIMS 10-12 (CANCELED).

CLAIM 13 (CURRENTLY AMENDED): A bicycle disk brake rotor apparatus comprising:  
a hub mounting member;

a generally ring-shaped first rotor member including a plurality of circumferentially disposed first fixing components extending radially inwardly from an inner peripheral surface of the first rotor member and structured to mount the first rotor member to the hub mounting member;

a generally ring-shaped first second rotor member including a plurality of circumferentially disposed first fixing components extending radially inwardly from an inner peripheral surface of the first second rotor member and structured to mount the first second rotor member to the hub mounting member;

a generally ring-shaped second second rotor member including a plurality of circumferentially disposed second fixing components extending radially inwardly from an inner peripheral surface of the second second rotor member and structured to mount the second second rotor member to the hub mounting member;

wherein each of the plurality of first fixing components on the first rotor member aligns with a corresponding one of the plurality of first fixing components on the first second rotor member;

wherein each of the plurality of first fixing components on the first rotor member aligns with a corresponding one of the plurality of second fixing components on the second second rotor member;

wherein the first rotor member is pressure welded to and disposed between the first second rotor member and the second second rotor member;

a plurality of fasteners that fasten the hub mounting member to the plurality of first fixing components on the first rotor member, to the plurality of first fixing components on the first second rotor member, and to the plurality of second fixing components on the second second rotor member so that the first rotor member, the first second rotor member, and the second second rotor member are sandwiched between the plurality of fasteners and the hub mounting member and so that the first second rotor member and the second second rotor member are pressed towards the first rotor member by the plurality of fasteners and the hub mounting member to prevent delamination of the first rotor member, the first second rotor member, and the second second rotor member from each other;

wherein at least a majority of the disk brake rotor apparatus between outermost lateral side surfaces of the first rotor member, the first second rotor member and the second second rotor member at correspondingly same radial and circumferential locations thereof is free of voids;

wherein the first second rotor member is formed of a material having greater braking wear resistance than the first rotor member;

wherein the second second rotor member is formed of a material having greater braking wear resistance than the first rotor member; and

The apparatus according to claim 12 further comprising a plurality of the fasteners, wherein each of the plurality of first fixing components on the first rotor member, each of the plurality of first fixing components on the first second rotor member, and each of the plurality of second fixing components on the second second rotor member is structured to receive at least one of the plurality of fasteners therethrough.

CLAIM 14 (CURRENTLY AMENDED): The apparatus according to claim 13 ~~further comprising the fastener for each of the plurality of first fixing components on the first rotor member, the plurality of first fixing components on the first second rotor member, and the plurality of second fixing components on the second second rotor member,~~ wherein at least one fastener of the plurality of fasteners comprises aluminum.

CLAIMS 15-17 (CANCELED).

CLAIM 18 (CURRENTLY AMENDED): A bicycle disk brake rotor apparatus comprising:  
a hub mounting member;  
a generally circular first rotor member;  
a generally circular first second rotor member;  
a generally circular second second rotor member;  
wherein the hub mounting member has greater thermal conductivity than the first second rotor member and the second second rotor member;  
wherein the first second rotor member is formed of a material having greater braking wear resistance than the first rotor member;

wherein the second second rotor member is formed of a material having greater braking wear resistance than the first rotor member;

wherein the first rotor member is pressure welded to and disposed between the first second rotor member and the second second rotor member; and

The apparatus according to claim 17 further comprising:

a plurality of the first fixing components extending circumferentially around the first rotor member and structured to mount the first rotor member to the hub mounting member;

a plurality of the first fixing components extending circumferentially around the first second rotor member and structured to mount the first second rotor member to the hub mounting member;  
and

a plurality of the second fixing components extending circumferentially around the second second rotor member and structured to mount the second second rotor member to the hub mounting member;

wherein each of the plurality of first fixing components on the first rotor member aligns with corresponding ones of the plurality of first fixing components on the first second rotor member and the plurality of second fixing components on the second second rotor member;

wherein at least a majority of the disk brake rotor apparatus between outermost lateral side surfaces of the first rotor member, the first second rotor member and the second second rotor member at correspondingly same radial and circumferential locations thereof is free of voids;

a plurality of fasteners that fasten the hub mounting member to the plurality of first fixing components on the first rotor member, to the plurality of first fixing components on the first second rotor member, and to the plurality of second fixing components on the second second rotor member so that the first rotor member, the first second rotor member and the second second rotor member are sandwiched between the plurality of fasteners and the hub mounting member and so that the first second rotor member and the second second rotor member are pressed towards the first rotor member by the plurality of fasteners and the hub mounting member to prevent delamination of the first rotor member, the first second rotor member and the second second rotor member from each other; and

wherein the hub mounting member comprises:

a centrally disposed hub attachment component structured to be mounted to the hub;  
and  
a rotor attachment component extending radially outwardly from the hub attachment component and structured to mount to the plurality of first fixing components on the first rotor member, to the plurality of first fixing components on the first second rotor member, and to the plurality of second fixing components on the second second rotor member.

CLAIM 19 (PREVIOUSLY PRESENTED): The apparatus according to claim 18 wherein the first rotor member, the first second rotor member and the second second rotor member each comprises a ring-shaped member, and wherein the plurality of first fixing components on the first rotor member, the plurality of first fixing components on the first second rotor member, and the plurality of second fixing components on the second second rotor member extend radially inwardly from an inner peripheral surface of their respective first rotor member, first second rotor member and second second rotor member.

CLAIM 20 (CURRENTLY AMENDED): The apparatus according to claim 19 wherein the rotor attachment component comprises a plurality of arm components extending radially outwardly from the hub attachment component, wherein each arm component is fixed to a corresponding first fixing component on the first rotor member, to a corresponding first fixing component on the first second rotor member, and to a corresponding second fixing component on the second second rotor member.

CLAIM 21 (CURRENTLY AMENDED): The apparatus according to claim 20 ~~further comprising a fastener extending~~ wherein at least one of the plurality of fasteners extends through each associated arm component, through each associated first fixing component on the first rotor member, through each associated first fixing component on the first second rotor member, and through each associated second fixing component on the second second rotor member.

CLAIMS 22-25 (CANCELED).